BEGONIA NOMENCLATURE NOTES, I

Begonia repens Lamarck

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The Species of the Begoniaceae, Edition 2, 1974, by Fred A. Barkley and Jack Golding is a compendium of the published names and published synonomy for the species and therefore continues the errors from the literature. I have been reviewing the literature to verify or correct the citations and their synonomy. My determinations will be published in this series, "Begonia Nomenclature Notes."

ORIGINAL CITATION

The name Begonia repens was first published by Jean Baptiste Lamarck in Encyclopedie methodique. Botanique 1: 394. 1 August 1785. He gave this name to the plant of Charles Plumier, Begonia roseo flore, folio aurito, minor et hirsuta, (Begonia with pink flower, eared leaf, smaller and hairy) listed in Joseph Pitton de Tournefort, Institutiones 1. (app.): 660. 1700.; in Plumier, Nova plantarum americanarum genera: 20. 1703; and illustrated in Plumier, Plantarum americanarum, Johannes Burman edit., fasc. 2:34.
t. 45. f. 2. 1756.
5. Bécons rampante, Begonia repens. Begonia
eaulibus repentibus ad nodos radicosis; foliis

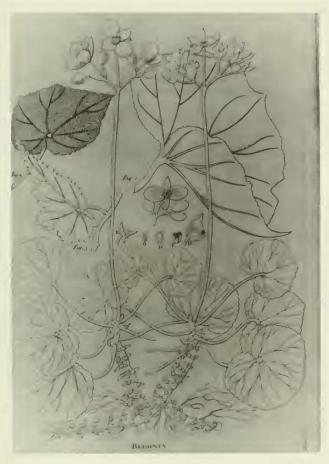
uniauritis; pedunculis axillaribus, longis, muleistoris. N. Begonia roseo store, folio aurito,
minor, & hirsuta. Plum. Sp. 20. Ic. 45. s. 2.

E. Begonia roseo store, folio aurito, minor, &
glabra. Plum. Sp. 20. Ic. 45. s. 3.

Sa racine est rampante comme celle du Chiendent (estitum arras).

The original citation by Lamarck

dent (triticum repens), & pousse des tiges noueuses, couchées & étalées sur la terre, feuillées, & munies à chaque nœud de petites racines sibreuses. Ses seuilles sont alternes, pétiolées, un peu plus grandes que la paume de la main, obliques, crénelées, à un seul lobe à leur base, vertes en dessus avec beaucoup de nervures blanchâtres chargées de poils courts, & rouges en leur surface inférieure. De chacune des aisselles des feuilles supérieures, il s'élève un pédoncule long d'un pied & demi ou davantage, & qui foutient un corymbe rameux, muni de fleurs, les unes males & les autres femelles. Leurs pétales font blancs & ellipriques; les femelles en ont six portés sur un ovaire rouge & à trois aîles. Leur fruit a aussi trois aîles, mais dont une est beaucoup plus grande que les autres. Les fleurs males n'ont que quatre pétales & de perites étamines jaunes. Cette plante croît à St. Domingue, dans le voisinage des ruisseaux. Plum. Ms.



Plantarum americanarum tabula XLV

MAIN FIG. Begonia roseo flore, folio orbiculari Plumier. = Begonia rotundifolia Lamarck.

FIG. 1. Begonia purpurea et nivea, maxima, folio

aurito Plumier. = Begonia macrophylla Lamarck.

FIG. 2. Begonia roseo flore, folio aurito, minor et
hirsuta Plumier. = Begonia repens Lamarck.

FIG. 3. Begonia roseo flore, foliis acutioribus,
auritis, et late crenatis Plumier. = Begonia plumieri A. DC.

[Courtesy Hunt Institute for Botanical Documentation]

The English translation by Carrie Karegeannes* follows:

5. Creeping Begonia. Begonia repens.

Begonia with creeping stems with many roots at the nodes, the leaves with one earlike lobe; the peduncles axillary, long, multiflowered. Names: Begonia roseo flore, folio aurito, minor, & hirsuta [Begonia with pink flower, eared leaf, smaller, and hairy]. Plumier, Sp.: 20. Icones: tab. 45. fig. 2.

Variety beta. Begonia roseo flore, folio aurito, minor, & glabra [Begonia with pink flower, eared leaf, smaller, and glabrous]. Plumier, Sp.: 20. Icones:

tab. 45. fig. 3.

Its root is creeping like that of the Couch-grass (Triticum repens) and puts forth knobby stems, prostrate and spreading on the ground, leaved, and provided with fibrous roots at each node. Its leaves are alternate, petioled, a little larger than the palm of the hand, oblique, crenate, with a single lobe at the base, green on the upper side with many whitish veins laden with short hairs, and red on the under surface. From each of the axils of the upper leaves arises a peduncle one and a half feet long or more, which supports a branched corymb provided with flowers, some male and the others female. The petals are white and elliptic; the females carry six petals on a red ovary with three wings. Their fruit also has three wings, but one of them is much larger than the others. The male flowers have only four petals and small yellow stamens.

This plant grows in Santo Domingo, in the neighborhood of streams. Plumier MSS.

CONFUSION WITH TABULA 45

Lamarck named his variety beta as based on the plant of Plumier, Begonia roseo flore, folio aurito, minor & glabra (Begonia with pink flower, eared leaf, smaller and glabrous), and also referred to Plumier's illustration fig. 3 on tab. 45. But this was not correct as fig. 3 was based on Plumier's Begonia roseo flore, foliis acutioribus, auritis & late crenatis (Begonia with pink flower, with leaves more acute, eared, and broadly crenate).

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An examination of the text on page 34 of Plantarum american arum that pertains to fig. 2 on tab. 45 causes me to speculate that the original reference to fig. 3 might have been a typographical error.

The text is: "Begonia roseo flore, folio aurito, minor & hirsuta. Plum. Cujus folium Fig. 2 exprimitur, hujus & altera glabra est, ejusdem penitus structurae," which I translate as "Begonia with pink flower, eared leaf, smaller and hairy Plumier, whose leaf is portrayed by fig. 2, the inner structure of this and the other, glabrous one is the same." This reference to "the other, glabrous one" is to Begonia roseo flore, folio aurito, minor & glabra Plumier.

Since the configuration of the hairy leaved <code>Begonia</code> and the glabrous leaved <code>Begonia</code> was the same, Lamarck named the former <code>Begonia</code> repens and the later <code>Begonia</code> repens var. <code>beta</code>. He probably intended to refer both to <code>fig</code>. 2 or perhaps originally var. <code>beta</code> was to shown by <code>fig</code>. 3, but when the figure was changed to show a different plant, the text was not corrected.

Otto E. Schulz reviewed the early Begonia in Urban, Symbolae antillanae 7: 1-29. 1911. On page 15 he gave the name Begonia brachypoda to Plumier's plant that Lamarck had designated as Begonia repens var. beta (excluding fig. 3 of tab. 45).

The plant of Plumier that was illustrated by tab. 45. fig. 3 was given the name Begonia plumieri by A. de Candolle in his Prodromus 15(1):295. 1864.

CITATION OF SCHULZ

Otto E. Schulz also listed on page 28, ibid., Begonia repens Lamarck (excluding var. beta) under the heading of "Species not sufficiently known," and observed, "It seems this species is properly separated but until now it is yet to be found again." He referred to these citations:

- 1. The original by Lamarck, given above.
- 2. The comments by Jonas Dryander in his "Observations on the genus of Begonia" in Transactions of the Linnean Society of London 1:172. 1791. Dryander had listed Begonia repens Lamarck under "Obscure Species" and noted after the description, "Chevalier

Lamarck describes this with white flowers, which according to Plumier's name should be pink." Dryander also noted Lamarck's error in citing tab. 45. fig. 3 for his variety beta.

Most botanists do not consider flower color to be an important characteristic in the determination of a species. I have often noted that some Begonia species growing in shaded areas have flowers that are white, but when the same species is grown in a sumnier location, the flowers often are tinged with pink or are completely pink.

3. Baillon, Natural history of plants 8:497. 1886. This reference merely lists the name Begonia repens Lamarck in a paragraph about the uses of Begonia.

CITATION OF A. DE CANDOLLE

A. de Candolle, in *Prodromus* 15 (1): 395. 1864., listed *Begonia repens* Lamarck with others under the heading, "Doubtful Species." He gave a description based on Lamarck's original description and, referring to fig. 2 of tab. 45. in Plumier, Plantarum americanarum, he commented, "where there is only a badly drawn leaf," and that the base, according to the description, had one earlike lobe, but from the illustration [as he saw it], was peltate. The underside of the leaf, from the description, A. DC. said, was hairy at the veins, but from the illustration it was sparsely hairy. He also noted that Lamarck's variety beta was certainly different, not completely known, and perhaps should be referred to Begonia wrightiana.

De Candolle apparently considered Plumier's fig. 2 as a view of the underside of the leaf. Perhaps that is why it looked peltate and sparsely hairy at the veins to him. I have studied the fig. 2 and it seems to me that it is drawn as viewed from above with the one earlike lobe overlapping the other, giving it the appearance of a peltate leaf. Also, if it were a view of the underside, the petiole would not be covered by the basal lobe and would be completely visible to the point of attachment to the blade.

OBSERVATIONS OF URBAN

I. Urban in "Plumiers Leben and Schriften,"
Fedde, Repertorium 5:109. 1920., observed that
tab. 125 in the book of Boerhaave (Begonia roseo flore,
folio aurito, minor et glabra = B. repens var. beta
Lam. = B. brachypoda O. E. Schulz) and tab. 126
(Begonia roseo flore, folio aurito, minor et hirsuta
= B. repens Lamarck) are similar except for the glabrousness.

These illustrations were copies of the original Plumier drawings made by Claude Aubriet in 1733 for Herman Boerhaave and they were used by Johannes Burman for the preparation of t. 45 in the Plantarum americanum. It would seem that rather than showing two separate leaves from the plants of Boerhaave's t. 125 and t. 126, which were the same except for the hair or the lack of it, he showed only the one from t. 126 and referred to the other t. 125 on page 34 of the text, as noted above.

I have been trying to obtain copies of either these illustrations or the originals by Plumier, as they may show the entire plants, not just the single leaves. A look at the original illustrations of Plumier probably would also resolve de Candolle's question concerning the peltate leaf and hairiness. Stafleu, Taxonomic literature: 360. 1967., lists the location of the original drawings and several copies.

INDEX KEWENSIS

More confusion is caused by the listing in Index Kewensis 1:287. 1895., that showed Begonia repens Lamarck as a synonym of Begonia rotundifolia Lamarck. Compare the above description of Begonia repens Lamarck with the following description of Begonia rotundifolia Lamarck.

7. BÍGONE à feuilles rondes, Begonià rotundifolia. Begonia caulibus squamosis, apice foliosis; pedunculis scaposis folis longioribus; sloribus umbellato-paniculatis. N. Begonia store rosco, folio orbiculari. Plum. Spec. 20. Tournes. 600.

Burm. Amer. Tab. 45.

The original citation by Lamarck.

Cette Bégone paroît former une espèce toutà-fait distincte de toutes les autres, qu'on trouve mentionnées dans les Auteurs : ses tiges ne sont que des souches épaisses, charnues, cylindriques, nues, chargées de petites écailles stipulaires qui persistent, & marquées en outre entre chaque paire d'écailles, d'autant de cicatrices qu'ont laissé les anciennes feuilles après leur chute; elles font garnies à leur fommet de plusieurs feuilles arrondies ou réniformes, quelquefois ombiliquées, légérement crénelées dans leur contout, vertes & luifantes en dessus, blanches en dessous, & soutenues par d'assez longs pétioles qui s'insé-rent près les uns des autres. De l'extrémité supérieure de chaque fouche, s'élève un long pédon-cule, ou plutôt une espèce de hampe beaucoup plus longue que les feuilles, & qui porte à son sommet des sleurs rougearres, monoiques & difposces en panicule ombellisorme. Cette plante croît dans l'Amérique méridionale, attachée aux rochers ou aux troncs d'arbres.

English translation by Carrie Karegeannes* follows:

7. Round-leaved Begonia. Begonia rotundifolia.

Begonia with scaly stem, full of leaves at the
tip; the scapose peduncle longer than the leaves; the
flowers borne in an umbellate panicle. Names:
Begonia flore roseo, folio orbiculari [Begonia with
pink flower, round leaf]. Plumier, Spec.: 20. Tournefort,: 600. Burman, Amer. tab. 45.

This Begonia would appear to form a species quite distinct from all the others that we find mentioned by the authors; the stems are merely thick rhizomes, fleshy, cylindrical, naked, laden with small stipulary scales that persist, and marked besides between each

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pair of scales by as many scars that old leaves have left after their fall. The rhizomes are furnished at their tips with several rounded or reniform leaves, sometimes umbilicate [navel-like, having a small central depression--or, Stearn says some authors use this to mean peltate; A. de Candolle cites it as "perhaps peltate?" with the question mark], lightly crenate on the margin, green and shining on the upper surface, white undermeath, and supported by rather long petioles inserted close together.

From the upper end of each rhizome arises a long peduncle, or rather a kind of scape, much longer than the leaves and carrying at its tip reddish monoecious

flowers disposed in an umbel-shaped panicle.

This plant grows in South America, attached to rock or to trunks of trees.

It is obvious that these are separate species that do not even resemble each other. I investigated the literature, trying to find a reason for this listing in Index Kewensis.

Steudel in Nomenclature botanicus, Ed. 1:104. 1821., listed as valid names both B. repens Lamarck and B. rotundifolia Lamarck. But in Ed. 2: 194. 1840., he listed as a valid name Begonia repens Arrab. [Steudel showed Fra. Antonio de Arrabida, the Editor of Flora fluminensis, as the author instead of Vellozo] and made B. repens Lamarck a synonym of Begonia rotundifolia Lamarck.

I reviewed the literature of Begonia between 1821 and 1840 trying to find a reason for this change by Steudel, but I could find none. I can only surmise that the confusion was caused by tab. 45 of Plumier Plant. Amer. that showed as the main figure the complete plant of B. rotundifolia Lamarck and only the leaves of other Begonia species as fig. 1, Begonia macrophylla Lamarck; fig. 2, Begonia repens Lamarck; and fig. 3. Begonia plumieri A. DC.

RECENT CITATION BY URBAN

I. Urban in Plantae Haitiensis et Domingensis VIII, Arkiv för Botanik 23A (5): 95-96. 1930., described the Begonia species collected by E. L. Ekman during 1917 and determined it to be Begonia repens Lamarck.

Urban referred to these citations:

Begonia repens Lamarck, Encyc. 1:394. 1785. (excl. var. beta); A. DC. Prodr. 15 (1): 395. 1864.; O. E. Schulz in Urban, Symb. ant. 7:28, 1911.: Begonia obliqua var. gamma L. Spec. plant. 1:1056. 1753.; Descourt. Flor. ant. 7:331. t. 537. 1829.: Begonia roseo flore, folio aurito, minor et hirsuta Plum. in Tournef. Instit. app.: 660. 1700., Cat. :20. 1703., and ed. Burm.: 34. t. 45. f.2. 1756.

These have been discussed above except for the one by Michel Etienne Descourtilz on page 331, with t.531, in Flore pittoresque et medicale des antilles, Volume 7, 1829, which concerns a Begonia with two-colored leaves. His list of synonomy is confused and includes "Begonia roseo flore, folio aurito major [? probably intended as minor], et hirsuta. Pl. Sp.: 20. Icon. 45 f.2," and several other Begonia which have been determined as separate species. The illustration t. 531 is of an apparently upright Begonia that seems to resemble Begonia minor Jacquin, Coll. 1: 126. 1787; and Icones 3:18 t.618. 1789. The flower details seem to be copies from t.778 by Redoute used by Lamarck in Tableau Encl. 2 (4) 1796, to illustrate Begonia nitida Dryander (a synonym of Begonia minor Jacquin). This illustration was adopted from an earlier plate by Redoute used by L'Heritier as pl. 46 in Stirpes novae: 95. 1788., to illustrate Begonia obliqua L. (this has been determined to be Begonia minor Jacquin). Also, t.531 does not seem to agree with description by Descourtliz, nor the other descriptions of Begonia repens Lamarck as a prostrate creeping plant.

My translation from the Latin of Urban's description follows: -

Stem creeping in the soil with many roots, up to 1 cm. thick. Stipules ovate shortly acuminate, entire, glabrous, up to 20 mm. long and up to 10 mm. wide. Leaves supported on petioles attached to the base of the blade, the petioles 6 to 20 cm. long, covered with more or less close together hairs 3 mm. long, spreading, usually zigzag or curved inward above, 5-8 mm. wide when flattened; the blade 10 to 15 cm. by 6 to 12 cm. large or smaller, obliquely reniform or transversely ovate, deeply cut at the base to 1-3 cm., the inside angle closed, one side (from the petiole attachment) rounded, the other shortly and obtusely or sharply acuminate; 7 to 9 veins extending from the base, much branched and reticulately connected; margin entire or

with 1 or 2 very wide and short teeth above, as if undulate; glabrous on the upper surface, below and at the margins with moderately long hairs; crimson or green; membranous in the dry state.

Inflorescences coming from the rhizomes, the peduncle 10-35 cm. long, glabrous, cymosely divided twice or thrice, the inflorescences themselves ultimately up to 12 cm. long; bracts ovate, 12 to 8 mm. long, 8 to 4 mm. wide; bracteoles oblong; finely three veined, often 7 mm. long, 2.5 mm. wide. Male flowers with pedicels often 6 mm. long. Sepals broadly ovate, those on hand scarcely cordate at the base, 6 mm. long, 5 mm. wide; petals white, whole ones not seen, but apparently narrowly obovate; only the younger anthers seen, 5, oblongly linear with tip subtruncate, minutely or scarcely apiculate, filaments free, longer than the anthers. Female flowers on pedicels ultimately up to 17 mm. long; petals white, the larger ones obovate, rounded in front, 7 mm. long, 4.5 mm. wide; styles ultimately 4 mm. long, the lower quarter united, the column changing suddenly into 6 to 8 simple threadlike, twisted branches. Capsules from the side almost circular, 6 mm. in diameter; wings spreading at right angles, the larger one ovate-triangular, a little obtuse, gradually narrowed, 12 mm. long, 9 mm. wide at the base, smaller ones shortly triangular, 3 to 5 mm. long. Seeds briefly obovate, with one side rounded, the other obtuse and scarcely apiculate, dark brown, coarsely reticulate, 0.3 mm. long.

From Haiti near brooklets: Plumier (in Lamarck).

Rediscovered since the time of Plumier, on Morne de la Hotte in mountain forest on northeastern slopes, at an altitude of 800 meters, scattered, 11 June 1917: Ekman No. 171 (ster.).

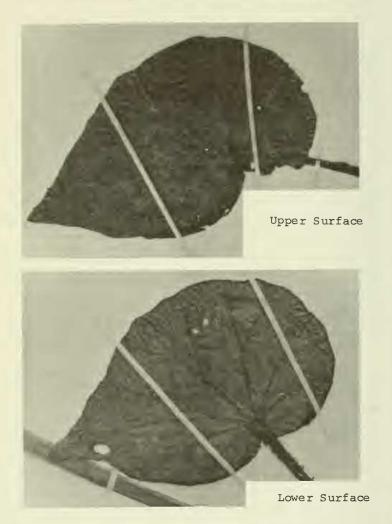
The same place in the central part near St. Louis du Sud, on the peak Bonnet-Carré, at an altitude of 1250 meters, with fruit, in the month of November: No. H 9243.

The same place in western part near Camp Perrin on northern mountains of Morne Vandervelde, frequent, in volcanic soil in the Coutard Gardens at 850-meter altitude, in December with flowers and fruit: No. H. 5220.

The same place, frequent, near Les Anglais on Morne l'Etang, at altitude of 1400 meters, month of July with flowers; No. H. 10355.

Observation. To be inserted in the arrangement of Schulz near Begonia rotundifolia Lam., but very different from it.

A duplicate of the Ekman specimen No. H. 5220 (less flowers and fruits) is at the U.S. National Herbarium in Washington, D.C. as U.S. No. 1412623.



Begonia repens Lamarck Ekman Specimen No. H. 5220 [Courtesy, United States National Museum]

REMAINING QUESTION

There still remain some discrepancies concerning the amount and location of the hairs on the leaves.

Plumier just stated that the species was hairy.

In tab. 45. fig. 2., the hairs are all over the (upper?) surface.

Lamarck, citing Plumier's manuscript, described them as, "green on the upper side with many whitish veins laden with short hairs, and red on the under surface."

- A. de Candolle apparently considered tab. 45. fig. 2. as a view of the lower surface and seems to have read Lamarck's description as, green on the upper side, with many whitish veins laden with short hairs and red on the under surface.
- I. Urban described them as, "glabrous on the upper surface, below and at the margins with moderately long hairs."

My search for a copy of Plumier's manuscript and original drawing of his <code>Begonia</code>, <code>roseo flore</code>, <code>folio aurito</code>, <code>minor & hirsuta</code> will continue because I think their examination would resolve the differences between the early descriptions, But, since this may require some time, I consider it best to publish these results of my study of <code>Begonia repensLamarck</code> now.

THE CORRECT CITATION

To summarize, the name Begonia repens Lamarck is legitimate and correctly cited with its synonyms as follows:

Begonia repens Lamarck, Encyc. 1:394. 1785.; I. Urban Arkiv Bot. 23A (5):95. 1930.

Begonia, roseo flore, folio aurito, minor & hirsuta Plumier, Nov. Pl. Amer. Gen.: 20. 1703.; Pl. Amer. 2:34. t. 45. f. 2. 1756.

Begonia obliqua var. gamma L. Sp. Pl. 1753.

HOMONYMS

All of the homonyms of Begonia repens have been renamed as follows:

Begonia repens var. beta Lamarck, Encyc. 1:394. 1785.(Excl. Plumier, Pl. Amer. 2:34. t.45. f.3.)

=Begonia brachypoda O. E. Schulz, Urb. Sym. Antill. 7:15. 1911.

Begonia repens Blume, Enum. Pl. Jav. 1:95. 1827.;
A. DC. Prodr. 15 (1): 391. 1864.

=Begonia mollis A. DC. Prodr. 15 (1): 391. 1864.

(not Begonia muricata Blume ex Backer & van den Brink, Flor. Jav.: 309. 1963.)

Observation: Cornelius A. Backer and C. Bakhuizen van den Brink in Flora of java: 309. 1963., listed as synonyms of Begonia muricata Blume: Begonia mollis Blume [? Probably intended as A. DC.], Begonia repens Blume, and Begonia saxatilis Blume. I have not been able to find any basis for this synonymy. Dr. S. H. Koorders in Exkursionflora von java: 649. 1912., reviewed and eliminated the confusion with Begonia muricata Blume and it is not the same as Begonia mollis A. DC.

Begonia repens Vellozo, Fl. Flum. 10:t.35. 1831.;
Arch. Mus. Nac. 5:403. 1881.
=Begonia velloziana Walpers, Rep. 2:216. 1843.

Observation: Walpers renamed Begonia repens
Vellozo because he thought the name was preceeded by Begonia repens Blume. As noted
above, that name by Blume was not valid either
and was later found to be a synonym of
Begonia mollis A. DC. Nevertheless, in
accordance with Article 64 of the ICBN the
valid prior use of the name Begonia repens by
Lamarck in 1785 (even if the name had later
been found illegitimate, which it was not)
precludes its use for any other species of the
genus Begonia. Hence, Begonia velloziana
Walpers is the legitimate name and Begonia repens
Vellozo is a synonym.

- Rossmannia repens Klotzsch, Monatsb. Akad. Berl.: 125. 1854.; Begoniaceen: 99.1855.

 =Begonia rossmanniae A. DC. Prodr. 15 (1): 333.
 1864.
- Begonia repens Herb. Ruizii ex Klotzsch, Begoniaceen 100. 1855. pro syn.; Ruiz & Pavon ex A. DC. Prodr. 15 (1): 333. 1864. pro syn. =Begonia rossmanniae A. DC. Prodr. 15 (1): 333. 1864.
- Diploclinium repens Miquel, Fl.Ind.Bat. 1: 686. 1856. =Begonia mollis A. DC. Prodr. 15 (1): 391. 1864.
- Scheidweileria repens Hasskarl, Hort. Bog. Desc.: 325.
 1858.
 =Begonia mollis A. DC. Prodr. 15 (1): 391. 1864.
- Mitscherlichia repens Miquel, Fl.Ind.Bat. Suppl. 1: 333. 1861. =Begonia mollis A. DC. Prodr. 15 (1): 391. 1864.
- Begonia repens Schott ex A. DC. Prodr. 15 (1): 365.

 1864. pro syn.

 =Begonia convolvulacea A. DC. in Martius, Fl. Bras.
 4 (1): 367. 1861.
- Begonia repens Liebmann ex Hemsley, Biol. Centr. Am. Bot. 1:497. 1879. pro syn.

This is an error, the reference should have been to Begonia reptans Bentham.

Begonia repens Sessé & Mociño, Fl. Mexic. ed. 2:219.
1894.
=Begonia glabra Aublet, Pl. Gui. 2:916. 1775.

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Begonia repens Lamarck Ekman Specimen No. H. 5220 [Courtesy, United States National Museum]